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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER
POKRZYWA, JOSEPH R

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/241,853	KOHLER ET AL.	
	Examiner	Art Unit	
	Joseph R. Pokrzywa	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-96* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *27-43 and 72-88* is/are allowed.

6)☒ Claim(s) *1-26,44-71 and 89-96* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 May 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. Applicant's amendment was received on May 16, 2003, and has been entered and made of record. Currently, **claims 1-96** are pending.

Response to Arguments

2. Applicant's arguments regarding the rejections of **claims 1-26, 44-71, 89, and 90**, filed May 16, 2003 have been fully considered but they are not persuasive. Further, upon review of the prior art, notably Chao (U.S. Patent Number 6,404,517), the examiner notes that the newly added **claims 91-96** can be interpreted as being anticipated by Chao, with a full discussion appearing below.

3. In response to applicant's arguments regarding the rejection of ***claims 1 and 46***, as being anticipated by Henderson (U.S. Patent Number 5,450,165), which states on page 33 that Henderson fails to teach of an application programming interface (API) and fails to teach of an API providing an application program with flow control data of the number of times that a function is to be called. The examiner notes that the API is defined in claim 1 as "providing a common interface between an application program and plural different types of color measuring devices". Henderson teaches of a detector (104, seen in Fig. 2), which acts to provide a common interface between an application program (column 8, lines 47 through 57) and plural different types of color measuring devices (being densitometers 24a-24e, seen in Figs. 1 and 2, column 4, lines 47 through 67, and column 6, lines 44 through 65). With this, one of ordinary skill in the art

can clearly interpret the detector 104 as an application program interface. Continuing, Henderson teaches that the API (interpreted as the detector 104) provides the application program with flow control data of the number of times that the function must be called, as read in column 7, lines 43 through 64, wherein the detector 104 activates a particular densitometer at the correct time, being at certain fixed times, which would be a certain number of times. Since the densitometers (24a-24e) output flow control data, the detector (104) can be interpreted as indirectly providing the application program with flow control data of the number of times the function must be called.

4. Therefore, the rejection of **claims 1 and 46,** as cited in the Office action dated 2/11/03, under 35 U.S.C. 102(b) as being anticipated by Henderson, is maintained and repeated in this Office action.

5. In response to applicant's arguments regarding the rejection of ***claims 1 and 46***, as being anticipated by Chao (U.S. Patent Number 6,404,517), which states on pages 34 and 35 that Chao fails to teach of an API providing an application program with flow control data of the number of times that a function is to be called. Chao teaches of an API, interpreted as the image processing unit 14, seen in Fig. 4, and column 9, lines 6 through 27, with the API providing a common interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9, wherein a scanner 18, and devices 46 and 52 are the plural different types of coloring measuring devices). Further, Chao teaches that the API provides the application program with flow control data of the number of times that the function must be called, as read in column 3, line 56 through column 4, line 14, column 6, line 49 through column 7, line 60,

wherein the image generator 56 generates a number of sheets of test patterns that are printed by printer 30, whereby the application program is provided with flow control data of the number of times the function must be called, depending on the number of test sheets.

6. Therefore, the rejection of **claims 1 and 46**, as well as the corresponding dependent claims, as cited in the Office action dated 2/11/03, under 35 U.S.C. 102(e) as being anticipated by Chao, is maintained and repeated in this Office action.

7. In response to applicant's arguments regarding the rejection of ***claims 8 and 53***, as being anticipated by Chao, which states on pages 35 through 37 that Chao fails to teach of providing an API as a common interface between an application program and plural different types of color measuring devices, and comprising calibrate-position, calibrate-sensor, move-to-patch, and make-measurement functions, wherein in order to complete an operation performed by one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of coloring measuring devices, and wherein for a color measuring device that is being operated, the API provides he application program with flow control data of the number of times that the function must be called. As discussed above, Chao teaches of the API (interpreted as the image processing unit 14) which provides a common interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9), and wherein for a color measuring device that is being operated, the API provides he application program with flow control data of the number of times that the function must be called (column 3, line 56 through column 4, line 14, column 6, line 49 through

column 7, line 60). Continuing, Chao teaches that the comprising calibrate-position (column 8, lines 13 through 47, being the function that uses first and second patches to represent a starting edge and the center of a sheet, so as to calibrate the width of the color patches), calibrate-sensor (column 6, lines 17 through 61, being the function that derives color spaces and inverse functions), move-to-patch (column 8, lines 48 through 67, being the function that defines the positioning of the color patch array), and make-measurement functions (column 8, line 40 through column 9, line 5, being the function of detecting the series of registration marks). Continuing, in order to complete an operation performed by one of the plural functions discussed above, the function that performs the operation (whereby the functions are performed by the various units within the image processing unit 14, seen in Fig. 2) must be called a number of times which is different for at least two different types of coloring measuring devices (column 6, lines 41 through 48, and column 7, lines 34 through column 8, line 47, wherein the registration mark processor 66 and the calibration unit 54 are called when scanner 18 is operated, whereas only the calibration unit 54 is called when operating measuring device 46).

8. Therefore, the rejection of **claims 8 and 53**, as well as the corresponding dependent claims, as cited in the Office action dated 2/11/03, under 35 U.S.C. 102(e) as being anticipated by Chao, is maintained and repeated in this Office action.

9. In response to applicant's arguments regarding the rejection of ***claims 44 and 89***, as being anticipated by Chao, which states on pages 37 through 39 that Chao fails to teach of providing a dynamically linkable library (DLL) for making color measurements with any of plural different types of color measuring device, as well as numerous limitations, which are

similar to the limitations found in claim 8. Accordingly, the discussion above regarding the rejection of claim 8 is herein noted, and further, in this case, the DLL is interpreted as the image processing unit 14, seen in Figs. 2 and 4. Because of this, one of ordinary skill in the art can interpret Chao as anticipating the claim.

10. Therefore, the rejection of **claims 44 and 89**, as cited in the Office action dated 2/11/03, under 35 U.S.C. 102(e) as being anticipated by Chao, is maintained and repeated in this Office action.

11. In response to applicant's arguments regarding the rejection of ***claims 45 and 90***, as being anticipated by Sherman *et al.* (U.S. Patent Number 5,537,516), which states on pages 39 and 40 that Sherman fails to teach of a color calibration program comprising code to call functions provided by an application programming interface that provides a common interface to the plural different types of color measuring devices, with the code to make color measurements using the common interface. Sherman teaches of code (being inherent in the system) to make color measurements calling functions provided by an application programming interface (API, interpreted as controllers 404 and 414) that provides a common interface to the plural different types of color measuring devices (column 13, line 46 through column 14, line 34, being interpreted as the functions that generate the scanner correction tables for a densitometer or a colorimeter), the code to make color measurements using the common interface (column 13, line 31 through column 14, line 35, and column 17, lines 20 through 47, wherein the controller 414 uses the measured signals and applies translation tables to produce calibration data).

12. Therefore, the rejection of **claims 45 and 90**, as cited in the Office action dated 2/11/03, under 35 U.S.C. 102(b) as being anticipated by Sherman *et al.*, is maintained and repeated in this Office action.

Drawings

13. The corrected or substitute drawings were received on May 16, 2003. These drawings are acceptable.

Claim Rejections - 35 USC § 102

14. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

15. **Claims 1 and 46** are rejected under 35 U.S.C. 102(b) as being anticipated by Henderson (U.S. Patent Number 5,450,165, cited in the Office action dated 2/11/03).

Regarding ***claim 1***, Henderson discloses computer-executable process steps (column 7, lines 60 through 64, and column 8, lines 47 through 54) to provide an application programming interface (API, being interpreted as detector 104, seen in Fig. 3), with the API providing a common interface between an application program and plural different types of color measuring devices (densitometers 24a-24e, seen in Figs. 1 and 2, column 4, lines 47 through 67, and column 6, lines 44 through 65) each having at least one color measuring sensor (column 4, lines 47 through 54), the computer-executable process steps comprising plural functions for operating any of the plurality different types of color measuring devices (column 4, lines 38 through 54), wherein in order to complete an operation performed by at least one of the plural functions, the

function that performs the operation must be called a number of times (column 6, lines 2 through 15) which is different for at least two different types of color measuring devices (column 4, line 59 through column 5, line column 6, line 44 through column 7, line 10), and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called (column 7, lines 43 through 64).

Regarding ***claim 46***, Henderson discloses a computer-readable medium (column 7, lines 60 through 64, and column 8, lines 47 through 54, being inherent in a for a programmed microprocessor) which stores computer-executable process steps (column 7, lines 60 through 64, and column 8, lines 47 through 54), with the steps to provide an application programming interface (API, being interpreted as detector 104, seen in Fig. 3), with the API providing a common interface between an application program and plural different types of color measuring devices (densitometers 24a-24e, seen in Figs. 1 and 2, column 4, lines 47 through 67, and column 6, lines 44 through 65) each having at least one color measuring sensor (column 4, lines 47 through 54), the computer-executable process steps comprising plural functions for operating any of the plurality different types of color measuring devices (column 4, lines 38 through 54), wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times (column 6, lines 2 through 15) which is different for at least two different types of color measuring devices (column 4, line 59 through column 5, line column 6, line 44 through column 7, line 10), and wherein for a color measuring device that is being operated, the API provides the application program with flow

control data of the number of times that the function must be called (column 7, lines 43 through 64).

16. **Claims 45 and 90** are rejected under 35 U.S.C. 102(b) as being anticipated by Sherman *et al.* (U.S. Patent Number 5,537,516, cited in the Office action dated 2/11/03).

Regarding ***claim 45***, Sherman discloses a color calibration program comprising computer-executable process steps to calibrate color fidelity of a color printer (see abstract, and column 7, lines 10 through 43) based on color measurements made by a color measuring device of color patches printed on a recording medium by the color printer (see abstract, and column 13, line 15 through column 14, line 35), with the computer executable steps comprising code to generate print data for the color patches (column 8, line 40 through column 9, line 27, column 9, lines 54 through 57, and column 10, lines 38 through 67), code to send the print data to the color printer so as to print the color patches on the recording medium (column 10, line 38 through column 11, line 7), code to make color measurements of the color patches printed on the recording medium using any of plural different types of color measuring devices (see abstract, and column 11, lines 8 through 33, column 13, line 31 through column 14, line 34), with the code to make color measurements calling functions provided by an application programming interface (API) that provides a common interface to the plural different types of color measuring devices (column 13, line 46 through column 14, line 34), the code to make color measurements using the common interface (column 13, line 31 through column 14, line 35, and column 17, lines 20 through 47), and code to calibrate color fidelity of the color printer based on the color measurements (column 7, lines 22 through 47, and column 17, lines 35 through 47).

Regarding ***claim 90***, Sherman discloses a computer-readable medium storing a color calibration program (column 3, line 61 through column 4, line 4, and column 7, lines 10 through 43, being inherent in a computer), with the program comprising computer-executable process steps to calibrate color fidelity of a color printer (see abstract, and column 7, lines 10 through 43) based on color measurements made by a color measuring device of color patches printed on a recording medium by the color printer (see abstract, and column 13, line 15 through column 14, line 35), with the computer executable steps comprising code to generate print data for the color patches (column 8, line 40 through column 9, line 27, column 9, lines 54 through 57, and column 10, lines 38 through 67), code to send the print data to the color printer so as to print the color patches on the recording medium (column 10, line 38 through column 11, line 7), code to make color measurements of the color patches printed on the recording medium using any of plural different types of color measuring devices (see abstract, and column 11, lines 8 through 33, column 13, line 31 through column 14, line 34), with the code to make color measurements calling functions provided by an application programming interface (API) that provides a common interface to the plural different types of color measuring devices (column 13, line 46 through column 14, line 34), the code to make color measurements using the common interface (column 13, line 31 through column 14, line 35, and column 17, lines 20 through 47), and code to calibrate color fidelity of the color printer based on the color measurements (column 7, lines 22 through 47, and column 17, lines 35 through 47).

17. **Claims 1-26, 44, 46-71, 89, and 91-96** are rejected under 35 U.S.C. 102(e) as being anticipated by Chao (U.S. Patent Number 6,404,517, cited in the Office action dated 2/11/03).

Regarding ***claim 1***, Chao discloses computer-executable process steps (column 9, lines 28 through 39) to provide an application programming interface (API, interpreted as the image processing unit 14, seen in Fig. 4, and column 9, lines 6 through 27), with the API providing a common interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9), the computer-executable process steps comprising plural functions for operating any of the plurality different types of color measuring devices (column 6, line 38 through column 7, line 9, and column 7, line 61 through column 8, line 67), wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices (see Fig. 2, column 6, lines 41 through 48, and column 7, lines 34 through column 8, line 47, wherein the registration mark processor 66 and the calibration unit 54 are called when scanner 18 is operated, whereas only the calibration unit 54 is called when operating measuring device 46), and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called (column 3, line 56 through column 4, line 14, column 6, lines 49 through 61, and column 7, lines 34 through 60).

Regarding ***claim 2***, Chao discloses the process steps discussed above in claim 1, and further teaches that the flow control data is provided by the function which must be called the

number of times in order to complete the operation (column 6, lines 41 through 61, and column 8, lines 6 through 47).

Regarding ***claim 3***, Chao discloses the process steps discussed above in claim 2, and further teaches that the flow control data is provided in the form of a call-again value (column 7, lines 34 through 47).

Regarding ***claim 4***, Chao discloses the process steps discussed above in claim 2, and further teaches that flow control data is provided in the form of a numerical value (column 7, lines 34 through 47).

Regarding ***claim 5***, Chao discloses the process steps discussed above in claim 1, and further teaches that the flow control data is provided by a separate function other than the function which must be called the number of times in order to complete the operation (column 8, lines 6 through 67).

Regarding ***claim 6***, Chao discloses the process steps discussed above in claim 1, and further teaches that functions in the API provide the application program with display values which are different for at least two different types of color measuring devices (registration marks, seen in Fig. 3, column 8, lines 6 through 47), the display values for display to a user so as to instruct the user in manipulating the color measuring device that is being operated (column 7, lines 48 through 60, and column 8, lines 48 through 67).

Regarding ***claim 7***, Chao discloses the process steps discussed above in claim 6, and further teaches that the plural functions for operating any of the plural different types of color measuring devices further comprise a function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices (column 6,

lines 17 through 66, and column 8, lines 13 through 47), a function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices (column 6, lines 17 through 61), a function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices (column 8, lines 13 through 67), the move-to-patch function being provided with a logical color patch number by the application program (column 8, lines 9 through 47), and a function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned (column 8, line 40 through column 9, line 5), the make-measurement function providing the application program with a color measurement value for the color patch (column 9, lines 1 through 5).

Regarding ***claim 8***, Chao discloses computer-executable process steps (column 9, lines 28 through 39) to provide an application programming interface (API, interpreted as the image processing unit 14, seen in Fig. 4, and column 9, lines 6 through 27), with the API providing a common interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9), the computer-executable process steps comprising plural functions for operating any of the plurality different types of color measuring devices (column 6, line 38 through column 7, line 9, and column 7, line 61 through column 8, line 67), the plural functions comprising a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types off color measuring devices (column 6, lines 17 through 66, and column 8, lines 13 through 47), a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices (column 6, lines 17 through 61), a move-to-patch function to relatively position any of the color

measuring sensors and a color patch (column 8, lines 13 through 67) being provided with a logical color patch number by the application program (column 8, lines 9 through 47), and a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned (column 8, line 40 through column 9, line 5), the make-measurement function providing the application program with a color measurement value for the color patch (column 9, lines 1 through 5), wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices (see Fig. 2, column 6, lines 41 through 48, and column 7, lines 34 through column 8, line 47, wherein the registration mark processor 66 and the calibration unit 54 are called when scanner 18 is operated, whereas only the calibration unit 54 is called when operating measuring device 46), and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called (column 3, line 56 through column 4, line 14, column 6, lines 49 through 61, and column 7, lines 34 through 60).

Regarding ***claim 9***, Chao discloses the process steps discussed above in claim 8, and further teaches that the calibrate-position function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct a user to position the recording medium or to position any of the color measuring sensors (column 7, lines 48 through 60, and column 8, lines 48 through 67).

Regarding ***claim 10***, Chao discloses the process steps discussed above in claim 8, and further teaches that the calibrate-sensor function provides the application program with at least

one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct a user in calibrating the sensor (column 8, lines 14 through 67).

Regarding ***claim 11***, Chao discloses the process steps discussed above in claim 8, and further teaches that the move-to-patch causes the color measuring device to move any of the color measuring sensors so as to relatively position any of the color measuring sensors and the color patch (column 8, lines 48 through 67).

Regarding ***claim 12***, Chao discloses the process steps discussed above in claim 8, and further teaches that the move-to-patch function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct a user to manipulate any of the color measuring devices so as to relatively position any of the color measuring sensors and the color patch (column 8, lines 14 through 67).

Regarding ***claim 13***, Chao discloses the process steps discussed above in claim 8, and further teaches that the move-to-patch function causes the color measuring device to move the recording medium so as to relatively position any of the color measuring sensors and the color patch (column 8, lines 48 through 67).

Regarding ***claim 14***, Chao discloses the process steps discussed above in claim 8, and further teaches that the move-to-patch function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct the user to move the recording medium so as to relatively position any of the color measuring sensors and the color patch (column 8, lines 14 through 67).

Regarding ***claim 15***, Chao discloses the process steps discussed above in claim 8, and further teaches that the move-to-patch function provides the application program with a recalibrate value in a case that the relative position of the recording medium needs to be recalibrated (column 7, lines 23 through 60).

Regarding ***claim 16***, Chao discloses the process steps discussed above in claim 8, and further teaches that the make-measurement function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct the user in making the color measurement (column 8, lines 14 through 67).

Regarding ***claim 17***, Chao discloses the process steps discussed above in claim 8, and further teaches that the make-measurement function provides the application program with a recalibrate value in a case that any of the color measuring sensors needs to be recalibrated (column 7, lines 23 through 60).

Regarding ***claim 18***, Chao discloses the process steps discussed above in claim 8, and further teaches that the flow control data is provided by the function which must be called the number of times in order to complete the operation (column 6, lines 41 through 61, and column 8, lines 6 through 47).

Regarding ***claim 19***, Chao discloses the process steps discussed above in claim 18, and further teaches that the flow control data is provided in the form of a call-again value (column 7, lines 34 through 47).

Regarding ***claim 20***, Chao discloses the process steps discussed above in claim 18, and further teaches that the flow control data is provided in the form of a numerical value (column 7, lines 34 through 47).

Regarding ***claim 21***, Chao discloses the process steps discussed above in claim 8, and further teaches that the plural functions further comprise a get-device-capabilities function to provide the application program with the flow control data (column 7, lines 23 through 47, and column 8, lines 32 through 37).

Regarding ***claim 22***, Chao discloses the process steps discussed above in claim 8, and further teaches that the plural functions in the API call device driver functions for the plural different types of color measuring devices (column 7, lines 23 through 47).

Regarding ***claim 23***, Chao discloses the process steps discussed above in claim 8, and further teaches that the computer-executable process steps are stored in a dynamically linkable library (column 9, lines 6 through 39).

Regarding ***claim 24***, Chao discloses the process steps discussed above in claim 8, and further teaches that the plural different types of color measuring devices include XY tables and hand-held patch readers (column 1, lines 11 through 37, column 3, lines 2 through 33, and column 6, lines 31 through 66).

Regarding ***claim 25***, Chao discloses the process steps discussed above in claim 8, and further teaches that the plural different types of color measuring devices include spectrometers and densitometers (column 6, lines 31 through 66).

Regarding ***claim 26***, Chao discloses the process steps discussed above in claim 8, and further teaches that the application program is a color calibration program (see abstract, and column 9, lines 6 through 39).

Regarding ***claim 44***, Chao discloses a dynamically linkable library (DLL, interpreted as the image processing unit 14, seen in Fig. 4, and column 9, lines 6 through 27) for making color measurements with any of plural different types of color measuring devices each having at least one color measuring sensor (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9), the DLL comprising plural functions each of which is for operating any of the plural different types of color measuring devices (column 6, line 38 through column 7, line 9, and column 7, line 61 through column 8, line 67), with the plural functions comprising a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices (column 6, lines 17 through 66, and column 8, lines 13 through 47), a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices (column 6, lines 17 through 61), a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices (column 8, lines 13 through 67), the move-to-patch function being provided with a logical color patch number (column 8, lines 9 through 47), and a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned (column 8, line 40 through column 9, line 5), the make-measurement function providing the application program with a color measurement value for the color patch (column 9, lines 1 through 5), wherein in order to complete an operation performed by at least one of the plural functions, the function that

performs the operation must be called a number of times which is different for at least two different types of color measuring devices (see Fig. 2, column 6, lines 41 through 48, and column 7, lines 34 through column 8, line 47, wherein the registration mark processor 66 and the calibration unit 54 are called when scanner 18 is operated, whereas only the calibration unit 54 is called when operating measuring device 46), and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called (column 3, line 56 through column 4, line 14, column 6, lines 49 through 61, and column 7, lines 34 through 60).

Regarding ***claim 46***, Chao discloses a computer-readable medium (column 9, lines 28 through 39) which stores computer-executable process steps, with the computer-executable process steps (column 9, lines 28 through 39) to provide an application programming interface (API, interpreted as the image processing unit 14, seen in Fig. 4, and column 9, lines 6 through 27), with the API providing a common interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9), the computer-executable process steps comprising plural functions for operating any of the plurality different types of color measuring devices (column 6, line 38 through column 7, line 9, and column 7, line 61 through column 8, line 67), wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices (see Fig. 2, column 6, lines 41 through 48, and column 7, lines 34 through column 8, line 47, wherein the registration mark processor 66 and the calibration unit 54 are called when scanner 18 is operated, whereas

only the calibration unit 54 is called when operating measuring device 46), and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called (column 3, line 56 through column 4, line 14, column 6, lines 49 through 61, and column 7, lines 34 through 60).

Regarding ***claim 47***, Chao discloses the medium discussed above in claim 46, and further teaches that the flow control data is provided by the function which must be called the number of times in order to complete the operation (column 6, lines 41 through 61, and column 8, lines 6 through 47).

Regarding ***claim 48***, Chao discloses the medium discussed above in claim 47, and further teaches that the flow control data is provided in the form of a call-again value (column 7, lines 34 through 47).

Regarding ***claim 49***, Chao discloses the medium discussed above in claim 47, and further teaches that flow control data is provided in the form of a numerical value (column 7, lines 34 through 47).

Regarding ***claim 50***, Chao discloses the medium discussed above in claim 46, and further teaches that the flow control data is provided by a separate function other than the function which must be called the number of times in order to complete the operation (column 8, lines 6 through 67).

Regarding ***claim 51***, Chao discloses the medium discussed above in claim 46, and further teaches that functions in the API provide the application program with display values which are different for at least two different types of color measuring devices (registration marks, seen in Fig. 3, column 8, lines 6 through 47), the display values for display to a user so as to instruct the

user in manipulating the color measuring device that is being operated (column 7, lines 48 through 60, and column 8, lines 48 through 67).

Regarding ***claim 52***, Chao discloses the medium discussed above in claim 51, and further teaches that the plural functions for operating any of the plural different types of color measuring devices further comprise a function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices (column 6, lines 17 through 66, and column 8, lines 13 through 47), a function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices (column 6, lines 17 through 61), a function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices (column 8, lines 13 through 67), the move-to-patch function being provided with a logical color patch number by the application program (column 8, lines 9 through 47), and a function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned (column 8, line 40 through column 9, line 5), the make-measurement function providing the application program with a color measurement value for the color patch (column 9, lines 1 through 5).

Regarding ***claim 53***, Chao discloses a computer readable medium (column 9, lines 28 through 39) storing computer-executable process steps, with the computer-executable process steps (column 9, lines 28 through 39) to provide an application programming interface (API, interpreted as the image processing unit 14, seen in Fig. 4, and column 9, lines 6 through 27), with the API providing a common interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9), the computer-executable process steps

comprising plural functions for operating any of the plurality different types of color measuring devices (column 6, line 38 through column 7, line 9, and column 7, line 61 through column 8, line 67), the plural functions comprising a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types off color measuring devices (column 6, lines 17 through 66, and column 8, lines 13 through 47), a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices (column 6, lines 17 through 61), a move-to-patch function to relatively position any of the color measuring sensors and a color patch (column 8, lines 13 through 67) being provided with a logical color patch number by the application program (column 8, lines 9 through 47), and a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned (column 8, line 40 through column 9, line 5), the make-measurement function providing the application program with a color measurement value for the color patch (column 9, lines 1 through 5), wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices (see Fig. 2, column 6, lines 41 through 48, and column 7, lines 34 through column 8, line 47, wherein the registration mark processor 66 and the calibration unit 54 are called when scanner 18 is operated, whereas only the calibration unit 54 is called when operating measuring device 46), and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called (column 3, line 56 through column 4, line 14, column 6, lines 49 through 61, and column 7, lines 34 through 60).

Regarding ***claim 54***, Chao discloses the medium discussed above in claim 53, and further teaches that the calibrate-position function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct a user to position the recording medium or to position any of the color measuring sensors (column 7, lines 48 through 60, and column 8, lines 48 through 67).

Regarding ***claim 55***, Chao discloses the medium discussed above in claim 53, and further teaches that the calibrate-sensor function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct a user in calibrating the sensor (column 8, lines 14 through 67).

Regarding ***claim 56***, Chao discloses the medium discussed above in claim 53, and further teaches that the move-to-patch causes the color measuring device to move any of the color measuring sensors so as to relatively position any of the color measuring sensors and the color patch (column 8, lines 48 through 67).

Regarding ***claim 57***, Chao discloses the medium discussed above in claim 53, and further teaches that the move-to-patch function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct a user to manipulate any of the color measuring devices so as to relatively position any of the color measuring sensors and the color patch (column 8, lines 14 through 67).

Regarding ***claim 58***, Chao discloses the medium discussed above in claim 53, and further teaches that the move-to-patch function causes the color measuring device to move the recording medium so as to relatively position any of the color measuring sensors and the color patch (column 8, lines 48 through 67).

Regarding ***claim 59***, Chao discloses the medium discussed above in claim 53, and further teaches that the move-to-patch function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct the user to move the recording medium so as to relatively position any of the color measuring sensors and the color patch (column 8, lines 14 through 67).

Regarding ***claim 60***, Chao discloses the medium discussed above in claim 53, and further teaches that the move-to-patch function provides the application program with a recalibrate value in a case that the relative position of the recording medium needs to be recalibrated (column 7, lines 23 through 60).

Regarding ***claim 61***, Chao discloses the medium discussed above in claim 53, and further teaches that the make-measurement function provides the application program with at least one display value that is to be displayed (registration marks, seen in Fig. 3, column 8, lines 6 through 47) so as to instruct the user in making the color measurement (column 8, lines 14 through 67).

Regarding ***claim 62***, Chao discloses the medium discussed above in claim 53, and further teaches that the make-measurement function provides the application program with a recalibrate value in a case that any of the color measuring sensors needs to be recalibrated (column 7, lines 23 through 60).

Regarding ***claim 63***, Chao discloses the medium discussed above in claim 53, and further teaches that the flow control data is provided by the function which must be called the number of times in order to complete the operation (column 6, lines 41 through 61, and column 8, lines 6 through 47).

Regarding ***claim 64***, Chao discloses the medium discussed above in claim 63, and further teaches that the flow control data is provided in the form of a call-again value (column 7, lines 34 through 47).

Regarding ***claim 65***, Chao discloses the medium discussed above in claim 63, and further teaches that the flow control data is provided in the form of a numerical value (column 7, lines 34 through 47).

Regarding ***claim 66***, Chao discloses the medium discussed above in claim 53, and further teaches that the plural functions further comprise a get-device-capabilities function to provide the application program with the flow control data (column 7, lines 23 through 47, and column 8, lines 32 through 37).

Regarding ***claim 67***, Chao discloses the medium discussed above in claim 53, and further teaches that the plural functions in the API call device driver functions for the plural different types of color measuring devices (column 7, lines 23 through 47).

Regarding ***claim 68***, Chao discloses the medium discussed above in claim 53, and further teaches that the computer-executable process steps are stored in a dynamically linkable library (column 9, lines 6 through 39).

Regarding ***claim 69***, Chao discloses the medium discussed above in claim 53, and further teaches that the plural different types of color measuring devices include XY tables and hand-held patch readers (column 1, lines 11 through 37, column 3, lines 2 through 33, and column 6, lines 31 through 66).

Regarding ***claim 70***, Chao discloses the medium discussed above in claim 53, and further teaches that the plural different types of color measuring devices include spectrometers and densitometers (column 6, lines 31 through 66).

Regarding ***claim 71***, Chao discloses the medium discussed above in claim 53, and further teaches that the application program is a color calibration program (see abstract, and column 9, lines 6 through 39).

Regarding ***claim 89***, Chao discloses a computer-readable medium (column 9, lines 6 through 39) storing a dynamically linkable library (DLL, interpreted as the image processing unit 14, seen in Fig. 4, and column 9, lines 6 through 27), with the DLL for making color measurements with any of plural different types of color measuring devices each having at least one color measuring sensor (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9), the DLL comprising plural functions each of which is for operating any of the plural different types of color measuring devices (column 6, line 38 through column 7, line 9, and column 7, line 61 through column 8, line 67), with the plural functions comprising a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices (column 6, lines 17 through 66, and column 8, lines 13 through 47), a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices (column 6, lines 17 through 61), a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices (column 8, lines 13 through 67), the move-to-patch function being provided with a logical color patch number (column 8, lines 9 through 47), and a make-measurement function to make a color measurement of the patch at

which any of the color measuring sensors is relatively positioned (column 8, line 40 through column 9, line 5), the make-measurement function providing the application program with a color measurement value for the color patch (column 9, lines 1 through 5), wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices (see Fig. 2, column 6, lines 41 through 48, and column 7, lines 34 through column 8, line 47, wherein the registration mark processor 66 and the calibration unit 54 are called when scanner 18 is operated, whereas only the calibration unit 54 is called when operating measuring device 46), and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called (column 3, line 56 through column 4, line 14, column 6, lines 49 through 61, and column 7, lines 34 through 60).

Regarding ***claim 91***, Chao discloses a computer-readable medium for storing computer-executable program code (column 9, lines 28 through 39) to provide an application programming interface (API, interpreted as the image processing unit 14, seen in Fig. 4, and column 9, lines 6 through 27), with the API providing a common interface between an application program and plural different types of color measuring devices (see Figs. 1A and 2, and column 6, line 38 through column 7, line 9, wherein a scanner 18, and devices 46 and 52 are the plural different types of coloring measuring devices), the computer-executable program code comprising plural functions for operating any of the plural different types of color measuring devices (column 6, lines 17 through column 8, line 47, being the various functions that each of the components 40, 42, 54, 56, 58, 64, and 66 perform, being within the image processing unit 14, when operating

either the measuring devices 46 and 52 or scanner 18), wherein the plural functions include a function callable to perform an operation using any of the plural different types of color measuring devices (column 6, line 62 through column 7, line 9, being a function of the calibration image generator 56 used to generate an image O, so as to be measured by measuring device 52), and wherein the behavior of the function called to perform the operation is based on the type of color measuring device used to perform the operation (column 6, line 31 through column 8, line 47, wherein the functions of each of the components within image processing unit 14 are different based on the type of color measuring device).

Regarding ***claim 92***, Chao discloses the medium discussed above in claim 91, and further teaches that the API identifies flow control data comprising a number of times the function is to be called in order to complete the operation, and wherein the API provides the application program with the number of times (column 3, line 56 through column 4, line 14, column 6, line 49 through column 7, line 60, wherein the image generator 56 generates a number of sheets of test patterns that are printed by printer 30, whereby the application program is provided with flow control data of the number of times the function must be called, depending on the number of test sheets).

Regarding ***claim 93***, Chao discloses the medium discussed above in claim 92, and further teaches that the flow control data is provided by the function (column 6, line 31 through column 8, line 47).

Regarding ***claim 94***, Chao discloses the medium discussed above in claim 92, and further teaches that the flow control data is provided by a function other than the function called to

perform the operation (column 7, lines 1 through 9, wherein the function called from the image generator 56 is different than the function of the calibration unit 54).

Regarding ***claim 95***, Chao discloses the medium discussed above in claim 92, and further teaches that the flow control data depends on the type of color measuring device for which the function is called (column 6, line 31 through column 7, line 9).

Regarding ***claim 96***, Chao discloses the medium discussed above in claim 91, and further teaches that the plural functions for operating any of the plural types of color measuring devices further comprise a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices (column 8, lines 13 through 47, being the function that uses first and second patches to represent a starting edge and the center of a sheet, so as to calibrate the width of the color patches), a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices (column 6, lines 17 through 61, being the function that derives color spaces and inverse functions), a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices (column 8, lines 48 through 67, being the function that defines the positioning of the color patch array), the move-to-patch function being provided with a logical color patch number by the application program (column 8, lines 9 through 47), and a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned (column 8, line 40 through column 9, line 5, being the function of detecting the series of registration marks), the make-measurement function providing the application program with a color measurement value for the color patch (column 9, lines 1 through 5).

Allowable Subject Matter

18. **Claims 27-43 and 72-88** are allowed.

19. The following is a statement of reasons for the indication of allowable subject matter:

Regarding ***claims 27 and 72***, in the examiner's opinion, it would not have been obvious to have the process steps, as claimed, further include the limitations of providing the application program with a call-again value in a case that the move-to patch function needs to be called multiple times to complete the relative positioning of the color measuring sensors, and providing the application program with a call-again value in a case that he make-measurement function needs to be called multiple times to complete making the color measurement of the color patch and has not been called the multiple times. The closest prior art Chao (U.S. Patent Number 6,404,517) fails to particularly teach these limitations. Because of that, the claims are rendered allowable.

Citation of Pertinent Prior Art

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Van Aken *et al.* (U.S. Patent Number 6,043,894) discloses a system for maintaining uniformity among a plurality of color measuring devices.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe Pokrzywa whose telephone number is (703) 305-0146. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (703) 305-4712. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

J. R. P.

Joseph R. Pokrzywa
Examiner
Art Unit 2622

EDWARD COLES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER

jrp
July 27, 2003